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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/067,384 | 02/05/2002 | Isao Takeuchi | SONYJP 3.0-237 | 7161 |
| 530 | 7590 | 08/01/2005 | EXAMINER | |
| LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090 | | | MEEK, JACOB M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2637 | |

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,384

Applicant(s)

TAKEUCHI, ISAO

Examiner

Jacob Meek

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 - 17, 19 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1 – 10, 12 – 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al (US-6,246,715).

With regard to claim 1, Park teaches a transmitting apparatus comprising a 1st transmitting unit operable to transmit a 1st signal component of a quadrature modulated signal as a signal in which data desired to be transmitted is modulated (see figure 2, User Channel Data #1); and a 2nd transmitting unit operable to transmit a 2nd signal component of quadrature modulated signal as a training signal (see figure 2, Pilot Channel Data where this is interpreted as equivalent functionality), 2nd signal component being orthogonal to 1st signal component (see column 4, lines 16 – 35 where this is interpreted as equivalent).

With regard to claim 2, Park teaches a transmitting apparatus wherein 1st signal component in an in-phase signal component (see figure 2, 112 where this is interpreted as equivalent), and 2nd signal component is a quadrature signal component (see Figure 2, 115 where this is interpreted as equivalent).

With regard to claim 3, Park teaches a transmitting apparatus wherein 1st signal component in a quadrature signal component (see figure 2, 116 where this is interpreted as

equivalent), and 2nd signal component is an in-phase signal component (see Figure 2, 111 where this is interpreted as equivalent).

With regard to claim 4, Park teaches a transmitting apparatus wherein training signal is formed by a known data sequence (see column 4, lines 19 – 22) generated on the basis of a predetermined clock (see column 1, lines 60 – 64 where chip rate is interpreted as a form of clocking).

With regard to claim 5, Park teaches a transmitting apparatus comprising a training signal generating unit operable to generate training signal (see figure 2, Pilot Channel Data and see column 4, lines 19 – 21 where this is interpreted as equivalent functionality); a transmission data generating unit operable to generate data desired to be transmitted (see figure 2, User Channel Data #1 and column 4, lines 22 – 24 where this is interpreted as equivalent); and a quadrature modulation unit operable to subject a data signal based on data desired to be transmitted and training signal to quadrature modulation to form quadrature modulated signal (see column 4, lines 25 – 50 where this is interpreted as equivalent).

With regard to claim 6, the steps claimed as method are a restatement of the functionality of the apparatus of claim 1, and therefore would have been obvious given the aforementioned rejection of claim 1.

With regard to claim 7, Park teaches a receiving apparatus comprising a receiving unit operable to receive a signal including 1st and 2nd signal components of a quadrature modulated signal, 1st signal component including a signal in which data desired to be to be transmitted is modulated (see figure 2, User Channel Data #1), and 2nd signal component being orthogonal to 1st signal component and being transmitted as a training signal (see figure 2, Pilot Channel Data and column 4, lines 16 – 35 where this is interpreted as equivalent); and an equalizer operative to adaptively equalize 1st signal component using

training signal (see figure 3, 323 and column 8, lines 8 – 17 where this is interpreted as equivalent functionality).

With regard to claim 8, Park teaches a receiving apparatus wherein 1st signal component in an in-phase signal component (see figure 3, ICS where this is interpreted as equivalent), and 2nd signal component is a quadrature signal component (see Figure 3, QPS where this is interpreted as equivalent).

With regard to claim 9, Park teaches a receiving apparatus wherein 1st signal component in a quadrature signal component (see figure 3, QCS where this is interpreted as equivalent), and 2nd signal component is an in-phase signal component (see Figure 3, IPS where this is interpreted as equivalent).

With regard to claim 10, Park teaches a receiving apparatus wherein training signal is formed by a known data sequence (see column 4, lines 19 – 22).

With regard to claim 12, the steps claimed as method are a restatement of the functionality of the apparatus of claim 7, and therefore would have been obvious given the aforementioned rejection of claim 7.

With regard to claim 13, the transceiver claimed is a restatement of the transmitter of claim 1 and the receiver of claim 7 and therefore obvious given the aforementioned rejections of claims 1 and 7.

With regard to claim 14, the transceiver claimed is a restatement of the transmitter of claim 2, and therefore obvious given the aforementioned rejections of claim 2.

With regard to claim 15, the transceiver claimed is a restatement of the transmitter of claim 3, and therefore obvious given the aforementioned rejections of claim 3.

With regard to claim 16, the transceiver claimed is a restatement of the transmitter of claim 4, and therefore obvious given the aforementioned rejections of claim 4.

With regard to claim 17, the transceiver claimed is a restatement of the transmitter of claim 5, and therefore obvious given the aforementioned rejections of claim 5.

With regard to claim 19, the steps claimed as method are a restatement of the functionality of the apparatus of claim 13, and therefore would have been obvious given the aforementioned rejection of claim 13.

Allowable Subject Matter

2. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Claim 11 is allowed.

Other Cited Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McCallister (US-6,222,878), Sung (US 2002/0067783), Cox (US-6,693,953) and McGibney (US-6,741,643) all disclose aspects of adaptive filtering of quadrature signals. Mosheni (US 2002/0118728) and Gilhousen (US-6,693,951) disclose variations of generation of quadrature signals.

Conclusion

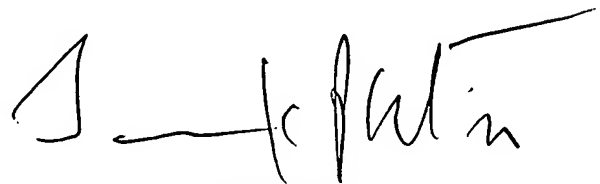
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM *gamon*



JAY K. PATEL
SUPERVISORY PATENT EXAMINER